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(21) International Application Number: PCT/US99/17876 (22) International Filing Date: 6 August 1999 (06.08.99) (30) Priority Data: 60/113, 259 21 December 1998 (21.12.98) US PCT/US99/02208 2 February 1999 (02.02.99) US 60/134,705 18 May 1999 (18.05.99) US (63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application US 60/113,259 (CIP) Filed on 21 December 1998 (21.12.98) (71) Applicant (for all designated States except US): CARDINAL IG COMPANY [US/US]; 12301 Whitewater Drive, Minnetonka, MN 55343-9447 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): KRISKO, Annette [US/US]; S-9913 Exchange Road, Prairie de Sac, WI 53578 (US). BOND, Bob [US/US]; 645 Washington, Spring Green, WI 53588 (US). STANEK, Roger [US/US]; 633 North Cincinnati, Spring Green, WI 53588 (US). PFAFF, Gary [US/US]; 1024 E. Madison Street, Spring Green, WI		53588 (US). HARTIG, Klaus [US/US]; 5871 Valley Road, Avcoa, WI 53506 (US). (74) Agents: HOTSCHKISS, Edward, S. et al.; Fredrikson & Byron, P.A., 1100 International Centre, 900 Second Avenue S., Minneapolis, MN 55402-3397 (US). (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.
(54) Title: LOW-EMISSION, SOIL-RESISTANT COATING FOR GLASS SURFACES		
(57) Abstract <p>A glass article that has a water-sheeting coating and a method of applying coatings to opposed sides of a substrate are described. In one embodiment, a water-sheeting coating (20) comprising silica is sputtered directly onto an exterior surface of the glass. The exterior face of this water-sheeting coating is substantially non-porous but has an irregular surface. The water-sheeting coating causes water applied to the coated surface to sheet, making the glass article easier to clean and helping the glass stay clean longer. In one method of the invention, interior and exterior surfaces of a glass sheet are cleaned. Thereafter, the interior surface of the sheet of glass is coated with a reflective coating by sputtering, in sequence, at least one dielectric layer, at least one metal layer, and at least one dielectric layer. The exterior surface of the glass is coated with a water-sheeting coating by sputtering silica directly onto the exterior surface of the sheet glass. If so desired, both the interior surface and the exterior surface can be applied during the same pass through the same sputter coating apparatus while glass maintains a constant orientation wherein the interior surface is positioned above the exterior surface.</p>		